



Swedish Aeronautical Research Center – a National Aeronautics Network

Directors:

Dan Henningson, KTH/LiU

Tomas Grönstedt, Chalmers

Petter Krus, LiU

What is SARC?

SARC is a national aeronautical research centre hosted by LiU and funded by Innovair, one of the first Vinnova's strategic innovation programmes.



Why SARC?

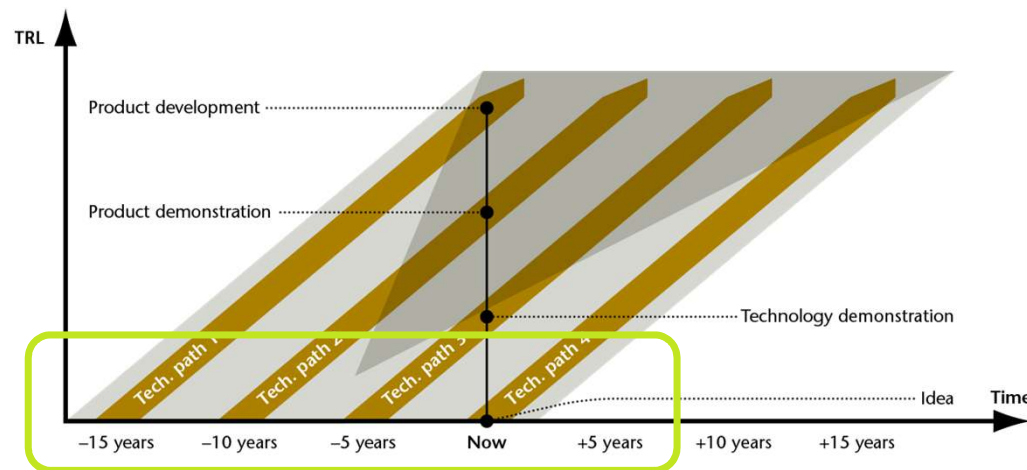
Recommendations in National Research and Innovation Agendas 2013 and 2016:

- 2013: “Strengthen the research networks”
- 2016: “We propose to fund a strategic research programme for aeronautics at TRL 1–2 ...”



Background

- Increased international competition makes it important to ensure Sweden's future competitiveness.
- It is crucial that we have a complete innovation system, from fundamental research, through demonstrators to products on the market.
- Collaboration between fundamental research and research on higher TRL levels needs to be strengthened.
- Within basic aeronautical research, there is an increased need for research at low TRL levels at universities.



The vision of SARC

To be the leading Network of Aeronautics researchers in Sweden, fostering collaboration among researchers and graduate students, influencing aeronautics policy and facilitate funding for fundamental aeronautics research.



The goals of SARC

- Facilitating collaboration between researchers in aeronautics nationally through graduate schools, annual conferences and workshops, in particular academic and industry researchers in the Vinnova NFFP7 program,
- Being a strong player internationally, positioning SARC in the EU Framework Program and other international research initiatives,
- Facilitating aeronautical research cooperation with Brazil, Great Britain, Germany and, in the long run, France and the United States,
- Facilitating competence in the aeronautics sector, including strategic aspects of graduate and undergraduate education.
- Having a clear communicable view on environmental aspect of aviation, aligned with the ACARE 2050 goals.

Vinnova's decision: 12 MSEK



Bestutsdatum

Diarienummer

1 (5)

2018-01-24

2018-00063

BESLUT OM BIDRAG

Diarienummer: 2018-00063
Projekttitel: Flygtekniskt Forskningscentra
Koordinator: Linköpings universitet
Institutionen för ekonomisk och industriell utveckling
Hus A, Campus Valla
58183 LINKÖPING
Organisationsnummer: 202100-3096
Firmatecknare/prefekt: Per-Olof Brehmer
Projektledare: Petter Krus
Linköpings universitet
Institutionen för ekonomisk och industriell utveckling
Vinnovas handläggare: Ebba Lindegren
Vinnovas administratör: Lena Dalsmyr
Startdatum-Slutdatum: 2018-02-01 - 2021-12-31

Er ansökan om bidrag har beviljats

Tack för er ansökan om bidrag inom utlysningen "Enskilda projekt - SIP Innovair 2018". Vi har beslutat att bevilja er ansökan.

Steering Board, Advisory and Management Group

- **Steering Board**

- Anders Blom, Innovair, Chariman
- Thomas Iremann, Saab
- Henrik R...
- Mats-Olof...
- Angela H...
- Peter Vär...

- **International**

- Chris Atkin, City College, Chariman
- Emilia Villani, ITA
- Mirko Hornung, TU Munchen
- Guillermo Paniagua, Purdue Univ.
- Deiter Peisch, TU Berlin
- Mats Åbom, KTH
- Ragnar Larsson, Chalmers

- **Management Group**

- Tomas Grönstedt, Chalmers, Director
- Dan Henningson, KTH/LiU, Deputy

International Advisory Group

- **Chris Atkin, City College, Chariman**
- **Emilia Villani, ITA**
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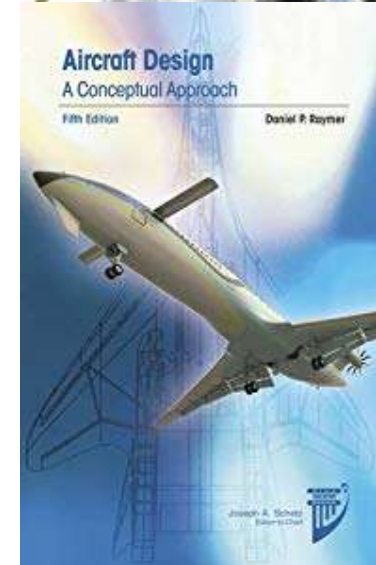
Initial activities

- Linköping University established the National Centre and appointed the Board and Directors in May 2018
- Kick-off meeting 18–19 June, 2018 at LiU
- Graduate schools and other activities started spring 2019
- Annual meeting 2–3 May, 2019 in Lidingö



SARC.Academy kick-off March 2019

- Fundamental course in Aeronautics for all NFFP PhD students
- Daniel P Raymer. *Aircraft Design a Conceptual Approach*
 - *Create understanding for relations at system level, important for students to understand how their individual projects relate to top level requirements*
 - *Creates a network among PhD students, both nationally and also internationally*
 - *Given in Florianopolis in Brazil, March 18-22, 2019*



SARC.Academy kick-off



SARC project for graduate students – continuation of SARC course project

- Develop conceptual aircraft design platform for collaboration, technology evaluation and education
- Demonstrator project started to evaluate top-level impact of laminar flow wings and Boxprop on aircraft performance and design
- Use platform for future SARC academy activities

Future SARC Activities

SARC.Research

- Visits to Swedish universities to include new aeronautical researchers
- Work to realize funding scheme which bridges gap between VR and VINNOVA funding (Innovair NRIA2019, similar to German programs)
- Annual meeting 2020, in conjunction with ECATS meeting (Environmentally Compatible Air Transport System)

SARC.Academy

- Summer school 2020 in engine technology and combustion in Germany (Dieter Pietsch) and common courses at Swedish universities
- Summer school 2021 in UK, possibly with D Raymer's course

SARC.International

- Promote and collaborate with BARINet (Brazilian version of SARC)

SARC 2nd Annual Meeting – Gothenburg April 21-22, 2020



ECATS IASBL jointly with SARC organises the

3rd ECATS Conference on Making Aviation Environmentally Sustainable

21-23 April 2020, Göteborg, Sweden

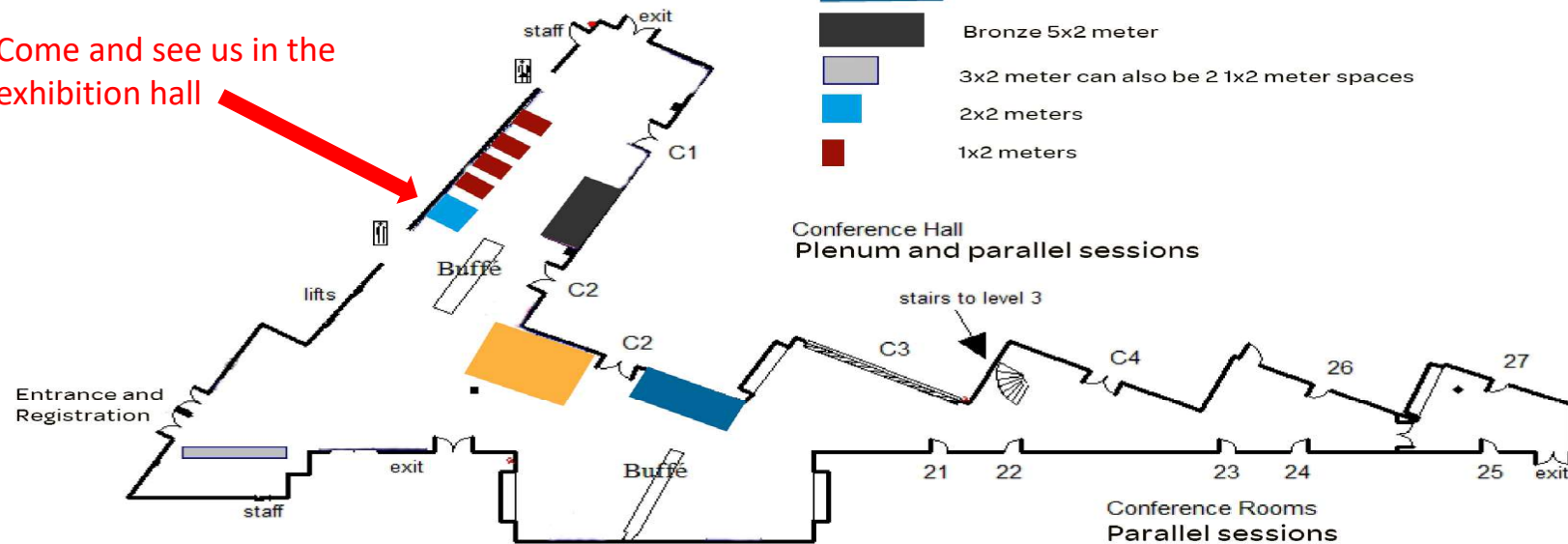
Jointly with:

2nd annual Swedish Aeronautical Research Center (SARC) meeting

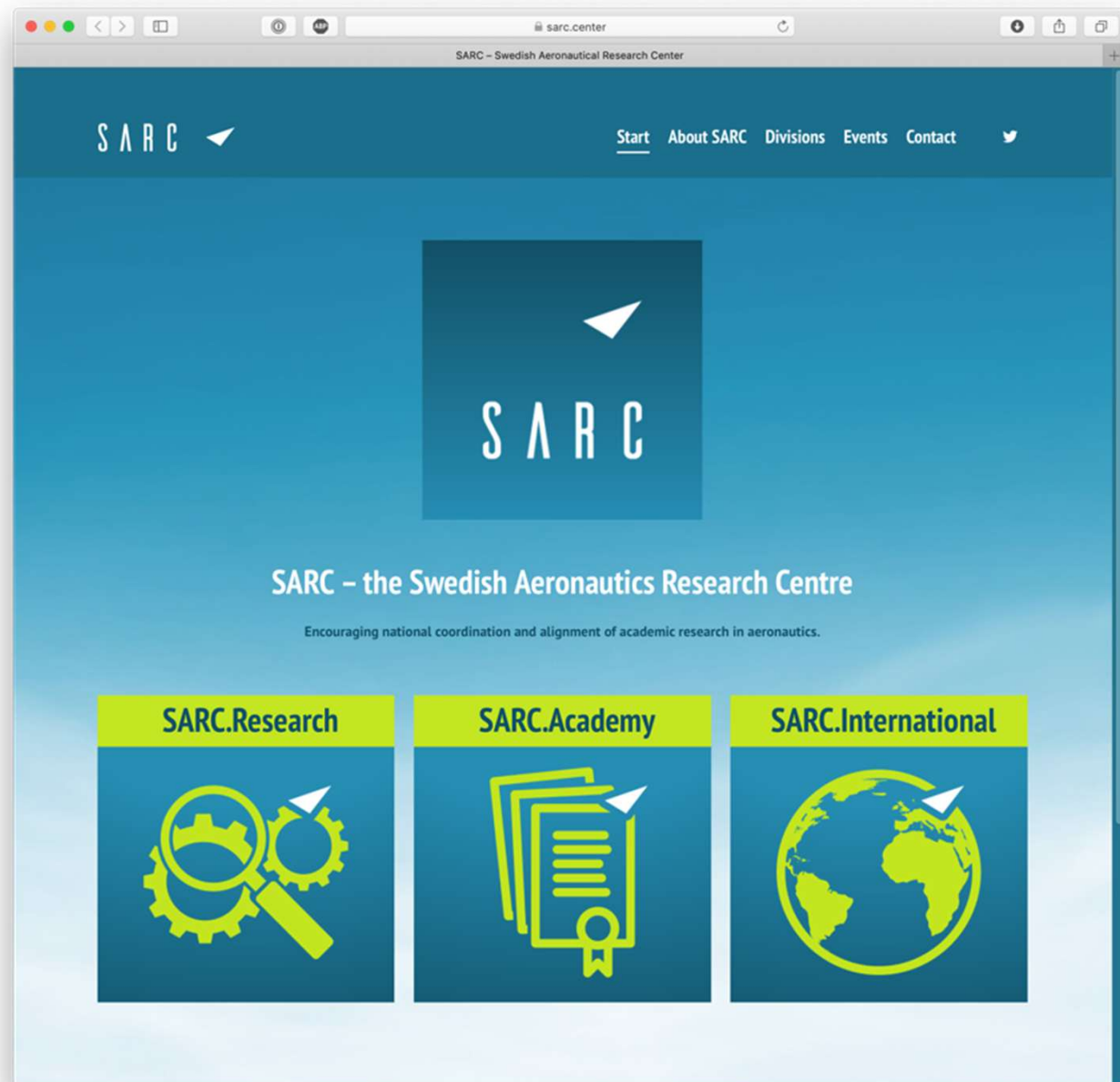
21-22 April 2020, Göteborg, Sweden

1. *Alternative fuels for aviation*
2. *Propulsion integration*
3. *Airport Air Quality*
4. *Aviation climate impact and mitigation concepts*
5. *Green flights – Climate optimal trajectories*
6. *Future materials for aircraft*
7. *Interdependency and aviation environmental modelling*





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09/10/2019



Thank you.

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